

WEST Search History

DATE: Monday, June 24, 2002

<u>Set Name</u>	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
side by side			result set
<i>DB=USPT; PLUR=YES; OP=ADJ</i>			
L21	L20 and high yield	24	L21
L20	L19 and (maize or corn)	116	L20
L19	stalk quality	117	L19
L18	high yield for its maturity	0	L18
L17	consistent grain yield	1	L17
L16	relative maturity adj10 113	10	L16
L15	L14 and 33r77	0	L15
L14	L13 and l10 and l6 and l4 and l2	7	L14
L13	L12 and (corn or maize)	220	L13
L12	cob color adj5 red	220	L12
L11	cob colorL10	0	L11
L10	L9 and (corn or maize)	82	L10
L9	aleurone color adj5 yellow	82	L9
L8	L7 and (corn or maize)	2	L8
L7	aleurone color adj5 yellow	2	L7
L6	L5 and (corn or maize)	118	L6
L5	glume color adj5 light green	118	L5
L4	L3 and (corn or maize)	40	L4
L3	silk color adj5 light green	40	L3
L2	l1 and (corn or maize)	81	L2
L1	anther color adj5 pink	83	L1

END OF SEARCH HISTORY

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TERMINAL (ENTER 1, 2, 3, OR ?):2

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NEWS 1 Web Page URLs for STN Seminar Schedule - N. America
NEWS 2 Jan 25 BLAST(R) searching in REGISTRY available in STN on the Web
NEWS 3 Jan 29 FSTA has been reloaded and moves to weekly updates
NEWS 4 Feb 01 DKILIT now produced by FIZ Karlsruhe and has a new update frequency
NEWS 5 Feb 19 Access via Tymnet and SprintNet Eliminated Effective 3/31/02
NEWS 6 Mar 08 Gene Names now available in BIOSIS
NEWS 7 Mar 22 TOXLIT no longer available
NEWS 8 Mar 22 TRCTHERMO no longer available
NEWS 9 Mar 28 US Provisional Priorities searched with P in CA/CAplus and USPATFULL
NEWS 10 Mar 28 LIPINSKI/CALC added for property searching in REGISTRY
NEWS 11 Apr 02 PAPERCHEM no longer available on STN. Use PAPERCHEM2 instead.
NEWS 12 Apr 08 "Ask CAS" for self-help around the clock
NEWS 13 Apr 09 BEILSTEIN: Reload and Implementation of a New Subject Area
NEWS 14 Apr 09 ZDB will be removed from STN
NEWS 15 Apr 19 US Patent Applications available in IFICDB, IFIPAT, and IFIUDB
NEWS 16 Apr 22 Records from IP.com available in CAPLUS, HCAPLUS, and ZCAPLUS
NEWS 17 Apr 22 BIOSIS Gene Names now available in TOXCENTER
NEWS 18 Apr 22 Federal Research in Progress (FEDRIP) now available
NEWS 19 Jun 03 New e-mail delivery for search results now available
NEWS 20 Jun 10 MEDLINE Reload
NEWS 21 Jun 10 PCTFULL has been reloaded

NEWS EXPRESS February 1 CURRENT WINDOWS VERSION IS V6.0d,
CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP),
AND CURRENT DISCOVER FILE IS DATED 05 FEBRUARY 2002
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* * * * * * * * * STN Columbus * * * * * * * * * * * * *

```
=> file agricola biosis  
COST IN U.S. DOLLARS  
SINCE FILE  
ENTRY  
TOTAL  
SESSION  
0.21  
0.21  
FULL ESTIMATED COST
```

FILE 'AGRICOLA' ENTERED AT 11:38:55 ON 24 JUN 2002

FILE 'BIOSIS' ENTERED AT 11:38:55 ON 24 JUN 2002
COPYRIGHT (C) 2002 BIOLOGICAL ABSTRACTS INC. (R)

```
=> s silk color (10w) light green  
L1 0 SILK COLOR (10W) LIGHT GREEN
```

```
=> s anther color (10w) pink  
L2 0 ANOTHER COLOR (10W) PINK
```

```
=> s glume color (10w) light green  
L3 0 GLUME COLOR (10W) LIGHT GREEN
```

```
=> s cob color (10w) red  
L4 0 COB COLOR (10W) RED
```

```
=> s 33r77 and (corn or maize)  
L5 0 33R77 AND (CORN OR MAIZE)
```

```
=> s high yield and (corn or maize)  
L6 257 HIGH YIELD AND (CORN OR MAIZE)
```

```
=> s l6 and relative maturity  
L7 0 L6 AND RELATIVE MATURITY
```

```
=> s l6 and stalk quality  
L8 0 L6 AND STALK QUALITY
```

```
=> s stalk quality  
L9 71 STALK QUALITY
```

```
=> s l9 and (corn or maize)\\  
MISSING OPERATOR MAIZE)\\  
The search profile that was entered contains terms or  
nested terms that are not separated by a logical operator.
```

```
=> s l9 and (corn or maize)  
L10 69 L9 AND (CORN OR MAIZE)
```

```
=> s l10 and (above average or good)  
L11 5 L10 AND (ABOVE AVERAGE OR GOOD)
```

=> d 1-5 ti

```
L11 ANSWER 1 OF 5 AGRICOLA  
TI Genetic analysis for stalk lodging resistance in narrow-base maize  
synthetic population ZPS14.
```

```
L11 ANSWER 2 OF 5 AGRICOLA  
TI Quantitative analysis of Iowa Stiff Stalk Synthetic [Corn  
variety developed in the 1930's by recombining 16 inbred lines that were  
above average for stalk quality,  
genetic variance, recurrent selection, yields, history].
```

```
L11 ANSWER 3 OF 5 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
TI Genetic analysis for stalk lodging resistance in narrow-base maize  
synthetic population ZPS14.
```

L11 ANSWER 4 OF 5 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI DIVERGENT SELECTION FOR **STALK QUALITY** AND GRAIN YIELD
IN AN ADAPTED X EXOTIC **MAIZE** POPULATION CROSS.

L11 ANSWER 5 OF 5 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI MEASUREMENT OF **STALK QUALITY** CHARACTERS IN
MAIZE ZEA-MAYS.

=> d 1-5 ab

L11 ANSWER 1 OF 5 AGRICOLA
AB Stalk lodging resistance and grain yield are the result of interactions of many traits expressed during **maize** (Zea mays L.) development. Determination of which traits influence stalk lodging resistance and grain yield might improve breeding program efficiency. The main objective of this study was to identify stalk traits that might relate to stalk lodging and grain yield, so that they can be selected as correlated traits for improving both grain yield and **stalk quality**. For this investigation, S1 progenies were randomly derived from the Yugoslavian **maize** synthetic population ZPS14. Correlations and path coefficient analysis showed stalk water content had the greatest impact on stalk lodging resistance and grain yield. Genotypic correlations (r_g) revealed that stalk water content had a negative and significant influence on both percentage of lodged plants ($r_g = -0.46^*$) and grain yield ($r_g = -0.42^*$). Thus, improvement in grain yield and stalk lodging would be not expected from selection for stalk water content. However, a small number of S1 families with high stalk water content and **above average** grain yield were identified, suggesting some progress could be made in improving both traits simultaneously if the breeding population was large. A significant genotypic relationship was not found for grain yield and stalk lodging resistance ($r_g = 0.04$). As shown by path analysis, direct effects of stalk lodging on grain yield were small and nonsignificant ($P_{1.2} = 0.003$). Breeding for better **stalk quality**, thus, will not affect future progress of selection for grain yield.

L11 ANSWER 2 OF 5 AGRICOLA

L11 ANSWER 3 OF 5 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AB Stalk lodging resistance and grain yield are the result of interactions of many traits expressed during **maize** (Zea mays L.) development. Determination of which traits influence stalk lodging resistance and grain yield might improve breeding program efficiency. The main objective of this study was to identify stalk traits that might relate to stalk lodging and grain yield, so that they can be selected as correlated traits for improving both grain yield and **stalk quality**. For this investigation, S-1 progenies were randomly derived from the Yugoslavian **maize** synthetic population ZPS14. Correlations and path coefficient analysis showed stalk water content had the greatest impact on stalk lodging resistance and grain yield. Genotypic correlations (r_g) revealed that stalk water content had a negative and significant influence on both percentage of lodged plants ($r_g = -0.46^*$) and grain yield ($r_g = -0.42^*$). Thus, improvement in grain yield and stalk lodging would be not expected from selection for stalk water content. However, a small number of S-1 families with high stalk water content and **above average** grain yield were identified, suggesting some progress could be made in improving both traits simultaneously if the breeding population was large. A significant genotypic relationship was not found for grain yield and stalk lodging resistance ($r_g = 0.04$). As shown by path analysis, direct effects of stalk lodging on grain yield were small and nonsignificant ($P_{1.2} = 0.003$). Breeding for better **stalk quality**, thus, will not affect future progress of selection for grain yield.

L11 ANSWER 4 OF 5 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AB The choice of breeding materials, evaluation techniques, and breeding methodologies is crucial in improving lodging resistance of **maize** (*Zea mays L.*). The present study was conducted to evaluate progress from selection for different stalk traits and for grain yield in the F2 of Illinois Stiff Stalk Synthetic Composite (RSSSC) times. South African Photoperiod Insensitive Composite II (PIC2), a population that has **good** potential for **stalk quality** and yield improvement. One cycle of divergent Si family selection was practiced for the following traits: (i) grain yield, (ii) lodging resistance, (iii) rind puncture resistance using penetrometer measurements, (iv) stalk crushing strength, and (v) a desired gain selection index based on the first three traits. In addition, one cycle of divergent mass selection for rind puncture resistance was completed. Evaluation of progress from selection was based on Cycle 1 populations, testcrosses to FRM017 and Oh43, and on random Cycle 1 S1 families grown in 1984 and/or 1985. When evaluated as C1 populations, response to S1 selection was significant for all five traits. Selection for higher grain yield resulted in a deterioration of **stalk quality**. Index selection was effective in increasing grain yield while maintaining acceptable lodging resistance. For improving stalk lodging resistance, selection for lodging resistance, per se, was most effective, followed by selection for high rind puncture resistance and high stalk crushing strength. In testcrosses, the selections for high rind puncture resistance showed greatest gains in stalk lodging resistance. Based on Cycle 1 S1 families, the direct responses to positive selection for grain yield, index, and rind puncture resistance were 1.2, 0.9, and 1.1 phenotypic standard deviations, respectively. Significantly genetic variance was present indicating further progress from selection is possible. Mass selection for rind puncture resistance was as effective as S1 selection and resulted in fewer undesirable correlated changes. For simultaneous **stalk quality** and grain yield improvement, S1 index selection, including rind puncture resistance and yield, appears promising.

L11 ANSWER 5 OF 5 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AB Several components of **stalk quality** in **maize** include stalk crushing strength, stalk weight and rind thickness. Stalk crushing strength was used for measuring **stalk quality** in **maize**. After 2 generations of recurrent selection for stalk crushing strength in 2 synthetic varieties, stalk crushing strength had highly significant and positive correlations with stalk weight. **Maize** breeders could use stalk weight as an alternative tool for measuring **stalk quality**. Measurement of stalk weight is rapid, inexpensive and adequate for screening plants with **good stalk quality**.

=> d 1-5 so

L11 ANSWER 1 OF 5 AGRICOLA
SO Crop science, July/Aug 1996. Vol. 36, No. 4. p. 909-913
Publisher: Madison, Wis. : Crop Science Society of America, 1961-
CODEN: CRPSAY; ISSN: 0011-183X

L11 ANSWER 2 OF 5 AGRICOLA
SO Stadler genetics symposia., 1983 Vol. 15 p. 83-104
Publisher: Columbia, Mo. : University of Missouri Agricultural Experiment Station.
ISSN: 0081-4148

L11 ANSWER 3 OF 5 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
SO Crop Science, (1996) Vol. 36, No. 4, pp. 909-913.
ISSN: 0011-183X.

L11 ANSWER 4 OF 5 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
SO CROP SCI, (1987) 27 (3), 487-494.
CODEN: CRPSAY. ISSN: 0011-183X.

L11 ANSWER 5 OF 5 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
SO MALAYS AGRIC J, (1978 (RECD 1980)) 51 (4), 436-439.
CODEN: MAGJAL. ISSN: 0025-1321.

=> s relative maturity and (corn or maize)
L12 57 RELATIVE MATURITY AND (CORN OR MAIZE)

=> s l12 and stalk quality
L13 0 L12 AND STALK QUALITY

=> s l12 and high yield
L14 0 L12 AND HIGH YIELD

=> s l12 and excellent yield
L15 0 L12 AND EXCELLENT YIELD

=> s l12 and central corn belt
L16 1 L12 AND CENTRAL CORN BELT

=> d ti

L16 ANSWER 1 OF 1 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI **CORN HYBRID RESPONSE TO NITROGEN FERTILIZATION IN THE NORTHERN CORN BELT USA.**

=> d ab

L16 ANSWER 1 OF 1 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AB Recent research in the **central Corn Belt** showing that **corn** (*Zea mays L.*) hybrids differed markedly in yield response to N fertilization has stimulated interest in the N response characteristics of widely-grown hybrids in various production areas. However, little information is available on the importance of adjusting N application rates to improve yield or N fertilizer efficiency with specific hybrids. This study was conducted to determine if major differences in yield response to N fertilization exist among widely-grown hybrids in the northern **Corn Belt**, and to evaluate potential differences in N response characteristics among these hybrids. Experiments were conducted on a Plano silt loam (Typic Argiudoll) in southern Wisconsin [USA] using a split-plot treatment arrangement. **Corn** had been grown on the experimental sites since 1981. In 1985, subplot treatments were five 105- to 110-day **relative maturity** (RM) hybrids (Pioneer 3747 and 3732, Mo17 .times. A634, A632 .times. LH38, and LH74 .times. LH51). The same five hybrids plus two 95- to 100-day RM hybrids (Pioneer 3906 and 3737) were evaluated in 1986. Main plot treatments in both years were N rates of 0, 70, 140 and 210 lb N/acre broadcast applied as NH₄NO₃ before planting. In both years, grain yields varied with N rate and hybrid, but similar N rates were needed to maximize yields of the hybrids studied. Most hybrids produced maximum yields of 160 to 170 bu/acre with 140 lb N/acre in 1985, and 180 to 200 bu/acre with 210 lb N/acre in 1986. These responses are in good agreement with current Wisconsin N recommendations for **corn** production. The percentage of total N uptake accumulated at the midsilk stage of growth varied among hybrids and years. Results obtained suggest that the percent of total N accumulated at midsilk is not a consistent hybrid characteristic and is likely influenced by annual climatic variability. Nitrogen utilization efficiency (grain produced per pound of N uptake) was similar for the

hybrids studied. We conclude that the N fertilizer requirements of the hybrids evaluated in this study are similar and that yields of these hybrids will likely be maximized with currently recommended N rates.

=> d so

L16 ANSWER 1 OF 1 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
SO J PROD AGRIC, (1988) 1 (2), 99-104.
CODEN: JPRAEN.